

COMMENTARY

CHANGES IN PATIENT EVALUATION OF COMPLETED ORTHODONTIC ESTHETICS AFTER DENTAL BLEACHING

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As an orthodontist, I was interested to read Dr. Krug and Green's finding that patients reported greater satisfaction with orthodontic treatment when it was combined with a tooth-whitening procedure. I was particularly intrigued that patients even reported greater satisfaction with items not apparently altered by the bleaching treatment (i.e., the position and alignment of the teeth, the bite, and the profile). I was equally surprised to see that satisfaction with treatment declined slightly in the control group over time. However, these findings may not have surprised individuals familiar with patient satisfaction studies. I wish to offer an explanation for these three findings with information available in the literature on patient satisfaction.

First, the disconfirmation theory offers an explanation for why patients would report greater satisfaction with orthodontic treatment when it was combined with a tooth-whitening procedure. The disconfirmation theory maintains that patients are satisfied with a product or service when their pretreatment expectations are met and are more satisfied when their expectations are exceeded.¹ In Krug and Green's study, the patients were generally satisfied with their orthodontic treatment in that the final results met their pretreatment expectations. The experimental groups that received a complimentary tooth-whitening treatment reported higher levels of satisfaction perhaps because they had no pretreatment expectation of orthodontic treatment leading to brighter teeth. The results of Krug and Green's study might have been different if the patients were informed at the beginning of treatment that tooth whitening would be included as part of the treatment, effectively changing their pretreatment expectations. Satisfaction is also based in part on perceived value. In the current study, bleaching was complimentary. The perceived value and subsequent satisfaction levels may be different for patients paying for bleaching as part of their treatment compared to those who receive it free of charge.

Second, the greater satisfaction with all components of treatment in the bleaching groups can be explained by the chameleon effect described by Marsh and Yeung.² They argue that items appearing on a survey take on the meaning of other items with which they appear. For example, although position of the teeth, bite, smile, and profile are not directly related, they tend to take on a common meaning when grouped together in a survey that asks patients to rate their satisfaction with their orthodontic treatment. To truly understand patients' satisfaction with their bite, patients would need to be asked in a separate context and be given a clear definition of the term bite. It is not as surprising then that patients did not discern the contributions from each treatment when measured together on a single survey instrument.

Finally, I was initially surprised to see that satisfaction with treatment declined in the control group over time. I rationalized that the decrease in satisfaction levels may have been due to problems with retainers or potential relapse. However, this does not explain the decrease in satisfaction with items not likely to change in a short period of time like profile. A more likely explanation of the decrease in scores is that satisfaction, in general, decreases with time.^{3,4} Therefore, it should not have come as a surprise that the control group was less satisfied with treatment about 1 month after the initial posttreatment evaluation.

Dr. Krug and Green's article showed that combining an adjunctive procedure with orthodontic treatment may increase patient satisfaction in multiple aspects of care. The article also illustrates how complicated the study of patient satisfaction can be. Future studies of patient satisfaction with orthodontic treatment combined with adjunctive procedures like tooth reshaping and gingival recontouring would also be valuable. These studies should be carefully designed to avoid problems that may make interrupting and generalizing the results difficult.

The views expressed in this article are those of the author and do not reflect the official policy or position of the U.S. Air Force, Department of Defense, or the U.S. government.

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